## 國立清華大學工業工程與工程管理學系 NATIONAL TSING HUA UNIVERSITY, DEPARTMENT OF INDUSTRIAL ENGINEERING AND ENGINEERING MANAGEMENT

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## 第四十八期 推廣教育碩士學分班 (109.2-109.6)

程 簡

| 課程名稱 | 機率與統計應用 |            |          |                                                                                        | 課程編號           | IEEM1080204    | 學分數 | 3    |  |
|------|---------|------------|----------|----------------------------------------------------------------------------------------|----------------|----------------|-----|------|--|
| 上課時間 | 每       | 週四晚上       | 6:30~9:  | 20                                                                                     | 教室             | 工程一舘 R827      | 人數  | 30 位 |  |
| 授課教師 | 桑慧敏 教授  |            | 學歷       | 美國普渡                                                                                   | 美國普渡大學工業工程博士   |                |     |      |  |
|      |         |            | 專長       | 資料分析、機率統計與模擬理論與應用、太陽能製程品管與可靠度                                                          |                |                |     |      |  |
| 課程大綱 |         | 項目         |          | 課程進度                                                                                   |                |                |     |      |  |
|      |         | 1          | In       | Introduction to probabilistic and statistical model,                                   |                |                |     |      |  |
|      |         |            | in       | including but not being limited to:                                                    |                |                |     |      |  |
|      |         | 1          | I.       | I. Why does intuition cannot provide the correct answer?                               |                |                |     |      |  |
|      |         |            | II.      | II. What probability and statistical models can do for us?                             |                |                |     |      |  |
|      |         | 2          | 單        | 單元 1: Basic Concept of Probability Models (Ch. 2)                                      |                |                |     |      |  |
|      |         | 3          | 單        | <u>單元 1:</u> Univariate Probability Models (Ch. 3)                                     |                |                |     |      |  |
|      |         | 4          | 單        | <u>單元 1:</u> Discrete Probability Models (Ch. 4)                                       |                |                |     |      |  |
|      |         | 5          | 單        | <u>單元 1:</u> Continuous Probability Models (Ch. 5)                                     |                |                |     |      |  |
|      |         | 6          | 單        | 單元 1: 機率統計軟體,上機練習                                                                      |                |                |     |      |  |
|      |         | 7          | <u>單</u> | <u>單元 2:</u> Sampling distributions,                                                   |                |                |     |      |  |
|      |         | ,          |          | estimation, testing hypothesis (Ch. 8)                                                 |                |                |     |      |  |
|      |         | 8          |          | 單元 2: Estimation (Ch. 9)                                                               |                |                |     |      |  |
|      |         | 9          |          | 單元 2: Testing hypothesis (Ch. 10)                                                      |                |                |     |      |  |
|      |         | 777 - 0 () |          |                                                                                        | D歸) Regression |                |     |      |  |
|      |         | 11         |          | 單元 3: (迴歸) Regression                                                                  |                |                |     |      |  |
|      |         | 12         |          | 期中考 Mid-term exam                                                                      |                |                |     |      |  |
|      |         | 13         |          | Term Project 1 <u>單元 4: (實驗設計) Design of experiments</u>                               |                |                |     |      |  |
|      |         | 14         |          |                                                                                        |                |                |     |      |  |
|      |         | 15         | 1717     | <u>單元 4:</u> (實驗設計) Design of experiments<br><u>單元 4:</u> (實驗設計) Design of experiments |                |                |     |      |  |
|      |         | 16<br>17   |          | rm Projec                                                                              |                | or experiments |     |      |  |
|      |         | - 1 /      |          | 期末檢討                                                                                   |                |                |     |      |  |
|      |         | 10         |          | •                                                                                      |                |                |     |      |  |